

BIENNIAL  
REPORT

July 1, 1960  
to  
June 30, 1962



***State of Florida***

***Game & Fresh Water Fish Commission***

F354.35  
C 192  
1960-62

FLORIDA LIBRARY





STATE OF FLORIDA  
GAME AND FRESH WATER FISH COMMISSION

A. D. Aldrich, DIRECTOR  
O. E. Freye, ASS'T. DIRECTOR

TALLAHASSEE

Ed Madill, CHAIRMAN  
Ronald Wise  
J. B. Davis  
W. T. McBrown  
Don Southwell

HONORABLE FARRIS BRYANT  
Governor of the State of Florida  
Tallahassee, Florida

SIR: We have the privilege of submitting herewith the Biennial Report of the Florida Game and Fresh Water Fish Commission, for the period starting July 1, 1960, and ending June 30, 1962.

This report contains detailed outlines on Commission activities, and its major operational divisions, during that period.

Respectfully submitted,

A. D. Aldrich  
Director



Florida Game and Fresh Water Fish Commission, from left, seated, Ronald Wise, E. L. Madill, W. T. McBroom; standing, Don Southwell, and J. B. Davis.

## COMMISSION

**T**HE MEMBERSHIP of the Commission consists of five members, one from each Congressional District, as existing on January 1, 1941. Commissioners are appointed by the Governor, subject to confirmation by the Senate, for a term of five years.

Among the powers granted to the Commission is the power to fix bag limits and to establish open and closed season, on a statewide, regional or local basis. To regulate the manner and method of taking, transporting, storing and using birds, game, furbearing animals, fresh water fish, reptiles and amphibians.

During the 1960-62 biennium, the Florida Game and Fresh Water Fish Commission saw several changes in its membership.

### 1st District:

T. Paine Kelly, resigned December 16, 1961.  
E. L. Madill, appointed December 19, 1961.

### 2nd District:

Charles L. Hoffman, resigned September 21, 1962.  
J. B. Davis, appointed September 27, 1962.

### 3rd District:

Julian R. Alford, term expired January 6, 1962.  
Ronald Wise, appointed January 6, 1962.

### 4th District:

Dr. J. W. Cosper, Jr., term expired April 28, 1961.  
W. Thomas McBroom, appointed April 28, 1961.

### 5th District:

F. Don Southwell, appointed May 17, 1955, reappointed, April 24, 1959.

### Statement of Policy

It is the declared policy of this Commission that a balanced program of enforcement, research, information and education, administration and programing is required to carry out the objectives of the Game and Fresh Water Fish Commission. Furthermore this Commission believes that the Director is the Chief Administrative Officer and shall be charged with the carrying out of the policy directives of the Commission and the performance of the routine administrative functions including personnel selection, promotion policies, research and programing.

The Commission reserves unto itself the power for making all major policy decisions collectively together with the budgetary controls as the current fiscal situation may dictate.

The Commission feels that constitutional status was conferred on the Game and Fresh Water Fish Commission by popular vote and would resist any attempts to change the status of the Game and Fresh Water Fish Commission. In view of the rapidly expanding requirements for hunting and fishing throughout the State, it will be necessary for the Game and Fresh Water Fish Commission to coordinate and correlate its program with those of other agencies but the dilution of existing authority granted this Commission is contrary to existing policy.



**A. D. ALDRICH**  
Director



**A**PPOINTED DIRECTOR of the Florida Game and Fresh Water Fish Commission April 1955, A. D. Aldrich has a record of service in the fields of game and fish management, and conservation administration dating back to 1922.

Aldrich has been active in various fields involving outdoor recreation, including active membership in many technical and professional organizations. He served on the Advisory Council of the Outdoor Recreation Resources Review Commission, and is presently a member of the Citizen's Committee for the O.R.R.R.C.

Mr. Aldrich served on the advisory committee to the U.S. Forest Service on "wildlife use of the National Forests."

Since assuming duties as Director in Florida he has been active in the broad aspects of conservation through such groups as the Audubon Society, National Wildlife Federation, Izaak Walton League, and youth conservation education programs.

Mr. Aldrich firmly believes outdoor recreation in its broad application is necessary and essential to the physical and spiritual welfare of all citizens as well as to the general economy of Florida.

#### TABLE OF CONTENTS

Administration .....	6
Fiscal Division .....	8
Game Management Division .....	12
Fisheries Division .....	20
Information-Education Division .....	28
Communications Division .....	30
Law Enforcement .....	31
Statistical Summary .....	32

#### STATE OF FLORIDA FARRIS BRYANT, Governor

#### GAME & FRESH WATER FISH COMMISSION A. D. ALDRICH, Director

#### BIENNIAL REPORT June 30, 1962

E. L. Madill, Chairman, Dade City  
Charles Hoffman, Jacksonville  
Ronald Wise, DeFuniak Springs  
W. T. McBroom, Miami  
Don Southwell, Ormond Beach

**O. EARL FRYE**  
Assistant  
Director



O. Earle Frye has served as Assistant Director of the Florida Game and Fresh Water Fish Commission since 1951. He first joined the Commission as a bobwhite quail research technician on January 14, 1946, and has since rendered service in many capacities and positions.

Dr. Frye is especially noted for organizing and putting into effect a progressive game management program for the Commission, with a subsequent improvement in hunting success for the Florida hunter. He has written numerous technical and non-technical articles about wildlife and game management programs for many different publications.

During recent years, Dr. Frye has been particularly active in a program to improve Commission employee standards and performance.

## The Commission

# Administration

**T**HE FLORIDA Game and Fresh Water Fish Commission was created by a Constitutional Amendment passed at the general election of 1942, and becoming effective January 1, 1943. Under this amendment, there is vested in the Commission all regulatory and management authority for birds, game, fresh water fish, fur-bearing animals, reptiles and amphibians.

The Commission consists of five Commissioners—one of whom is appointed by the Governor from each of the five Congressional Districts of Florida that existed as of January 1, 1941. Such appointments are for terms of five years, are subject to confirmation by the Florida Senate, and are staggered so one appointment falls due each year.

The overall administration of the Game and Fresh Water Fish Commission is delegated by the Commission to a Director who is appointed by and serves at the pleasure of the five-man Commission.

Assisting the Director, and immediately under his supervision, are an Assistant Director, a Secretary to the Commission, personnel working on special assignments such as special investigators, and all Staff Officers.

Staff officers of the Commission consist of the Chiefs of Fiscal, Game Management, Fisheries, Information and Education, Communications, Aviation, and the Magazine Editor and the five Regional Managers.

The Director is immediately responsible to the Commission. All Chiefs of Divisions, or Staff Officers, are, on the other hand, responsible to the Director. Division personnel are, of course, responsible to their Staff Officers.

Thus, when a policy is set by the Commission, it is administered by the Director through his Staff Officers and their personnel.

Under this arrangement, it is the Staff Officers' duty not only to attend to their particular administrative duties, but also to keep the Director, and through him the Commission itself, fully informed as to all important activities in all administrative branches.

Prior to 1951, all Game Commission programs were organized and put into effect from one state-wide office in Tallahassee. This resulted in a cumbersome procedure that resulted in a loss of vital contact with personnel working in the field, and the local problems with which they were constantly confronted. Staff Officers in the Tallahassee main office were often isolated, not only from their own personnel, but also from the sportsmen and general public of the State of Florida.

In an effort to overcome this operational handicap, the Administrative set-up was decentralized to attain closer contact with field problems and personnel.

To accomplish this, Game Commission Regional offices were established in strategically located spots

throughout the state. Five Regions, and offices, were located in Northwest Florida, Northeast Florida, Central Florida, South Florida and Everglades Florida, with headquarters now in Panama City, Lake City, Ocala, Lakeland and West Palm Beach. Permanent headquarters buildings have been constructed at all of these sites.

Each Region was placed under a Regional Manager, responsible to the Commission's Director and Assistant Director. The Regional Managers are directly responsible for all activities within the geographical area composing their Region. These include all work and personnel in law enforcement, communications, game and fish management, aviation, information and education, and budgetary matters.

In order to make this operation workable, all activities of a technical nature must be supervised jointly by the Regional Manager and the Division Chief or Staff Officer of the appropriate function.

Thus, the Regional Manager, and his personnel, are assisted, at the upper level, by various Staff Officers. All state-wide programs set into effect by the Commission are organized and coordinated, with the cooperation of the Regional Managers and their personnel, by the Division Chiefs. It is therefore possible to put any overall program into immediate effect in all points of the state, with no discrepancies in policy or administration. A state-wide program is thereby operated exactly the same in every point of the state.

The close cooperation between the Director, the Assistant Director, the Division Chiefs and the Regional Managers is the most important item in the entire Administrative set-up.

Answerable to the various Staff Officers are additional sub-supervisory personnel. To the Chief of Fiscal is delegated responsibility for the State Property Officer, and Bookkeeping and Auditing personnel. The Game and Fish Management Chiefs are responsible for the leaders of Federal and State-wide Projects, such as the hyacinth control program, wildlife management areas, deer and turkey restoration, and water fowl and mourning dove research and management projects. The Information and Education Chief is responsible for the Chief of Youth Education, Chief of Audio-Visual, Chief of Conservation Extension, and the five Regional Information Officers. Regional Managers are responsible for regional fish and game and education officers, and area supervisors.

Beyond assisting the Director in these vital tasks, the Assistant Director customarily also handles details such as Personnel employment, training and qualifications, as well as revisions of the Wildlife Code Book rules and regulations, and certain legal affairs. He does these things as a portion of his responsibility to the Director.

# Florida Districts

## Regional Offices

**NORTHWEST REGION**  
Third District  
226 Airport Drive  
Panama City, Florida



**NORTHEAST REGION**  
Second District  
P.O. Box 908  
Lake City, Florida



**TALLAHASSEE**  
Administration



**CENTRAL REGION**  
Fifth District  
2520 Silver Springs Blvd.  
Ocala, Florida



**SOUTH FLORIDA REGION**  
First District  
2202 Lakeland Hills Blvd.  
Lakeland, Florida



**EVERGLADES REGION**  
Fourth District  
551 N. Military Trail  
West Palm Beach, Florida



### ADMINISTRATIVE

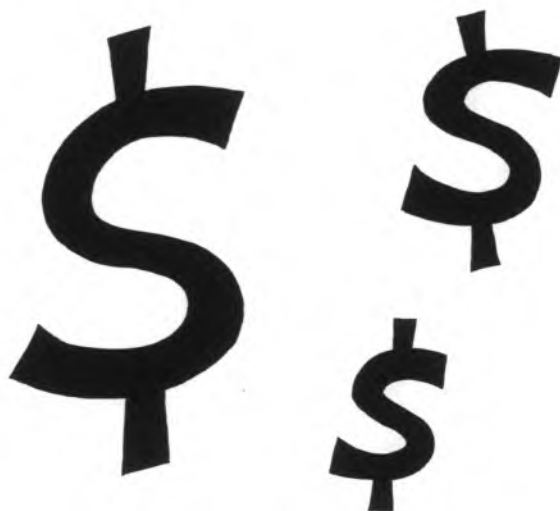
**JOEL McKINNON**, Administrative Assistant  
**JOHN WOODS**, Chief, Fish Management Division  
**H.E. WALLACE**, Chief, Game Management Division  
**JAMES FLOYD**, Chief, Information-Education Division  
**RHETT McMILLIAN**, Chief, Communications Division

### REGIONAL MANAGERS

**J. O. BROWN**, Mgr., South Florida Region  
**BRANTLEY GOODSON**, Mgr., Northeast Florida Region  
**M. H. WHISENHUNT**, Mgr., Northwest Florida Region  
**LOUIS F. GAINES**, Mgr., Everglades Region  
**J. W. BICKERSTAFF**, Mgr., Central Florida Region

# The Sportsman's

## 1960-1962 Fiscal Report



**T**HE FISCAL DIVISION IS ONE of the five major operational divisions of the Florida Game and Fresh Water Fish Commission. It is a division with many complex tasks and responsibilities in keeping with the approved statewide fresh water fishing and hunting conservation programs.

Of major importance is the responsibility of accounting for all revenues that comprise the "State Game Fund," and the exact governing of expenditures in proportion to revenue income. This procedure is set forth in the State Constitution, and those state laws established for state agency operations.

All Commission sport licenses are distributed to the County Judge offices by the Fiscal Division. Individual hunting and fresh water sports fishing licenses are sold through the County Judge's offices, and monthly sales reports are made to the Game and Fresh Water Fish Commission.

In addition to the sports licenses, this division issues all associated commercial licenses, audits all invoices, records arrest fees, and handles administration of property and property records and controls.

### Revenue Facts

The main source of revenue from which the Commission operates is the sale of sports licenses for fresh water fishing, and hunting. During the

By **JOEL MCKINNON**

Chief, Fiscal Division

1960-62 biennium there was a sales increase of 62,991 hunting and fishing licenses. Total license sales for the 1960-62 period was 778,534 as compared with the 715,543 total sold during the 1958-60 period.

Although there was an increase in resident fishing license sales during 1960-62, there was a decrease of 29,781 non-resident fishing licenses. The total for 1960-62 was 322,761 against the 352,542 total established during 1958-60. Despite the decrease in non-resident license sales, revenue from fresh water fishing licenses increased \$120,014.25 over the previous biennium.

Resident hunting license sales increased 12,624 over the 1958-60 total of 317,020, to 329,644 for the 1960-62 biennium. Non-resident hunting license sales show a decrease of 782 over 1958-60, but here again the revenue from all hunting license sales increased \$58,579.50 during the 1960-62 biennium.

The overall decrease in non-resident fishing and hunting license sales indicate some revision in Commission programs designed to attract the return of

non-resident anglers and hunters. Efforts along these lines were started during the latter part of the 1960-62 biennium, and are currently being accelerated throughout the state.

Additional and improved fresh water fishing areas are being developed for both the resident and non-resident fisherman. Extensive plans and research for more, and improved, hunting and fishing is the immediate goal of the Game and Fresh Water Fish Commission.

### Other Income Sources

Other license sales handled by the Fiscal Division include those issued for retail fish dealer, wholesale fish dealer, game farms, shooting preserves, etc. Income from these sources increased \$5,905.55 during the 1960-62 biennium.

Commission revenue from court costs, or arrest fees, also increased from the 1958-60 total of \$70,370.73, to \$80,737.70 for 1960-62. The \$10,366.97 increase stemmed from extended arrests made. During the 1958-60 period there was a total of 6,935 cases recorded with a disposition number of 6,545. The 1960-62 cases totaled 7,262 with disposition of 6,776 registered by the end of the biennium; 486 cases were pending.

The Commission also receives operating revenue from the leasing of timber rights, grazing, and

stumpage and marl, on Commission property. Equipment that has reached the unserviceable level is sold by the Commission through advertising, with sales made to the highest bidders.

### The State Game Fund

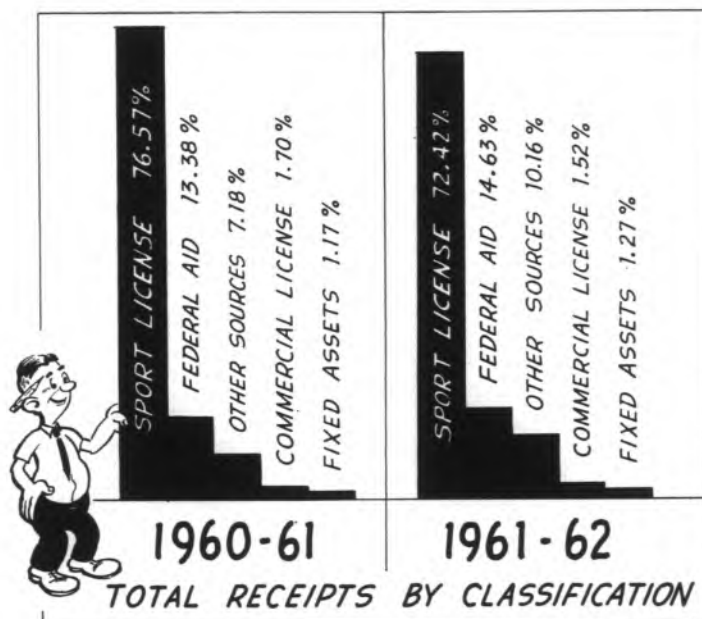
All operational monies for the Commission are received from the aforementioned revenue outline. The Commission does not receive any operating capital from the State's general tax revenue. The Constitutional Amendment established the Game and Fresh Water Fish Commission as a self-sustaining agency.

There have, however, been a few instances in recent years when the state legislature has appropriated sums earmarked for special programs such as noxious vegetation control, and fisheries improvement. The expenditure of these special appropriations are administered by the Commission, under the control of the State Cabinet and Budget Commission.

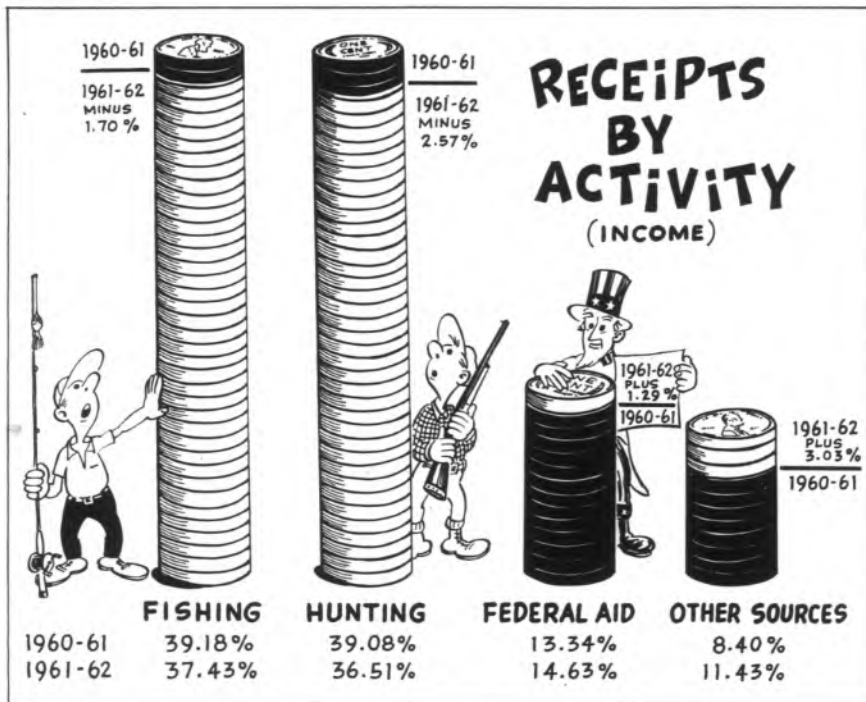
### Federal Aid Funds

Revenue in the form of federal aid reimbursement is received under the Pittman-Robertson Act for game management, and the Dingell-Johnson Act for fish management. The income from these two federal aid programs is based partially on the number of hunting and fishing license holders in the state for the previous year, or years, as well as the  
(Continued on next page)

Statistical Summaries Pages 32-34



The major portion of the revenue from which the Game and Fresh Water Fish Commission operates comes from the sale of hunting and fishing licenses. The cost of these licenses were set by the State Legislature in 1943.



The Commission's Fiscal Division is accountable for all revenues received, and governs expenditures according to the State Constitution, and laws for operation of state agencies.

(Continued from preceding page)

state's total acreage, plus the number of approved game and fish management programs in operation.

#### Income and Expenditures

The increase in expenditures during 1960-62 totaled \$435,399.63, with an increased revenue income of \$470,961.83. The Commission's total for fixed assets increased \$309,122.18. Increased revenue and expenditures will be most necessary by the Commission in order to proceed with the required overall conservation programs under the continuous rising costs of materials and services.

Prior to the end of the 1960-62 biennium the Commission completed construction of the last of the five regional office buildings. Two buildings were completed during the 1958-60 period.

Located in Panama City, Ocala, Lake City, West Palm Beach and Lakeland, the regional office buildings are valued in excess of \$93,980.00.

#### Arrest Fees

The Fiscal Division is responsible for the recording of all arrests for game and fresh water fish violations, as well as billing the respective counties for arrest fees and mileage sums due the Commission in each case when disposed of by the courts.

#### License Reports

All reports received from the 67 counties rela-

tive to fresh water fishing and hunting license sales must be checked and processed by this division. Every license printed must be accounted for, with all records verified by the State Auditing Department.

Commercial licenses are issued directly by mail upon receipt and approval of applications. All licenses are renewable at the end of each fiscal year. A total of 31,304 commercial licenses were issued by the Fiscal Division during 1960-62.

#### Property Control

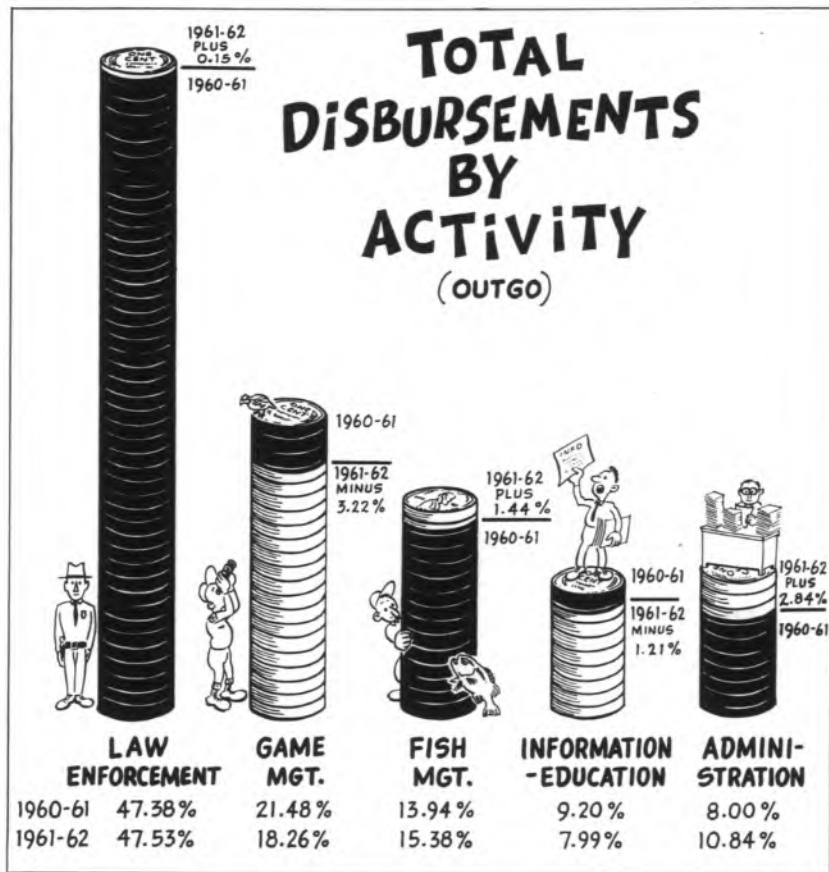
The purchase, sale, and inventories of all Commission property comes under the jurisdiction of the division's property officer. New equipment is completely recorded by the property officer as to the property number assigned, condition of the equipment, and the employee to whom the equipment is assigned.

When equipment is considered no longer serviceable, the property officer assumes the responsibility of selling such items for maximum income return. Revenue from sale of unserviceable equipment has been determined best under the system of advertising for competitive bids.

The property officer is required to make periodic inspection of all equipment, and must report fully on the values geared for maximum operation at minimum cost.

Operational cost records are kept for each in-

Annual programs of expenditures are put into a master budget, and recorded with the State Comptroller's office after approval by the Commission. Complex controls are maintained in relation to rate of disbursements compared with revenue received.



dividual motor vehicle and outboard motor. These reports supply the determining factors as to when necessary replacements are required. Vehicle operational cost records show miles per gallon, the cost per mile, total cost of servicing and repairs, plus total time and miles used, since purchase.

### Purchasing Procedures

A purchase order is required for each Commission employee expenditure of \$25.00 or more. Purchase orders relating to repairs may be issued by division chiefs or regional managers up to, but not exceeding \$100.00.

All other purchase orders in excess of \$25.00 must be secured through the Fiscal Division after approval by division chiefs or regional managers. This control factor is extremely important for proper distribution of Commission funds.

All payments by the Game and Fresh Water Fish Commission are made through warrants issued by the State Comptroller. An IBM installation made during the biennium enables this division to keep closer surveillance on the overall fiscal operation of the Commission. The IBM equipment

provides up-to-date statistical information to the game and fish management divisions; its usage by the Commission is unlimited, and has proven extremely beneficial during its short term of employment.

### Budget Preparation

The Fiscal Division consults with each region and division in preparation of individual annual budgets and program planning for departmental budget requirements prior to the start of each fiscal year. The department budgets are then compiled into a master Commission budget, and submitted to the board of commissioners for approval. When the master Commission budget is fully approved, it is submitted to the State Comptroller's office for recording.

The Fiscal Division must exercise full controls to see that the rate of expenditures remains in proportion to the rate of revenue income during any specific time or period of the fiscal year.

The 1960-62 biennium financial report shows the valuation of fixed assets for 1960-61 at \$1,689,003.84, and \$1,792,674.05 for 1961-62. This is a valuation increase of \$103,670.21 for the two year period. ●



Photo By Jim Floyd

The planting of browntop millet provides excellent food for quail, turkeys, doves and ducks.

**A**CTIVITY OF THE Game Management Division during the 1960-1962 biennium was largely concerned with the operation of established projects. Land acquisition activities succeeded in renewing agreements on the Richloam area. Contracts could not be renewed for the Big Cypress, Collier, and Holopaw areas, and these lands were dropped from the management area system for the 1960-61 fiscal year.

Important studies and investigations dealt with wildlife resources, habitat changes, and land use in connection with the Central and Southern Florida Flood Control Project; studies of quail, dove, deer, turkey, waterfowl, squirrel, and frog; land management, browse, population, harvest, and inventory studies.

During the biennium, the game management division engaged in the following investigations cooperatively with other states and agencies: southeastern Deer Disease Study, Southeastern Statistical Project, Atlantic Waterfowl Council, Site Preparation Studies (one with State Forest Service, one with U. S. Forest Service), U. S. Forest Service Food Plant Study, and Fire Ant Study.

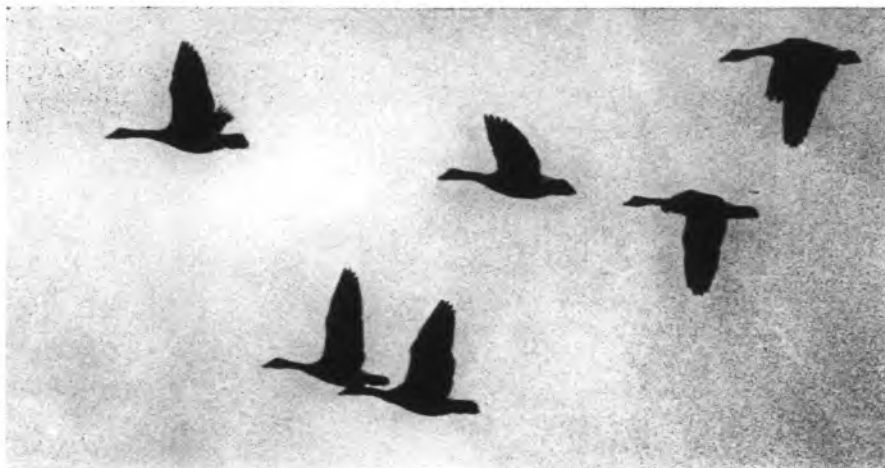
Development and habitat improvement again re-

## For Better Hunting

## Game



When the goose wings south, where will he spend the winter? The winter goose population shift away from Florida is largely due to intensified establishment of new feeding and resting areas in the states to the north. Located at the southern limits of the goose range, Florida will probably never have an excessively high goose population. But, with a proper habitat management program should be able to maintain a satisfactory population for hunting purposes.



ceived the major share of Federal Aid funds. These activities were largely confined to the management areas, and involved food plots, controlled burning, clearing, and maintenance and construction of facilities. One new activity concerned the establishment of dove fields for public hunting purposes. Turkey trapping at Fisheating Creek, hunt operations, and fire ant studies were done with state funds.

Tables 1 through 4 succinctly depict the major aspects of Florida's Pittman-Robertson program. Table

1 presents the state's P-R apportionments and assignment of funds during fiscal years 1961, 1962, and 1963 to the primary program categories. Tables 2 and 3 lists the wildlife management areas operated during the 1960-62 hunting seasons. Table 4 presents the projects' activities during the past year with individual estimated costs. Table 5 conveys information pertaining to program changes during the past twelve month period.

*(Continued on next page)*

# Management Division

H. E. WALLACE, Chief

**Table 1. PITTMAN-ROBERTSON APPORTIONMENTS AND EXPENDITURES OF FUNDS DURING FISCAL YEARS 1960-61, 1961-62, AND 1962-63 WITH SUMMARY OF PROJECTS BY TYPE**

	1960-61		1961-62		1962-63	
	Amount*	Percent	Amount*	Percent	Amount*	Percent
Coordination.....	\$ 23,300.00	6.4	\$ 19,300.00	6.7	\$ 25,000.00	8.2
Research.....	104,150.00	28.5	67,685.50	23.7	73,917.50	24.2
Development.....	237,900.00	65.1	199,125.00	69.9	205,400.00	67.4
Total.....	\$ 365,350.00		\$ 286,110.50		\$ 304,317.50	
Apportionment.....	\$ 210,975.60		\$ 201,732.91			

\* Federal monies with matching State funds. These amounts are planned expenditures.

## SUMMARY OF PROJECTS BY TYPE

	1960-61	1961-62	1962-63
Research.....	9	9	6
Development.....	6	6	4
Coordination.....	1	1	1
Land Acquisition.....	1	1	1



The Citrus Wildlife Management Area is the home of one of the largest white-tail deer herds in Florida.

### Eglin-Ocala Deer Investigations

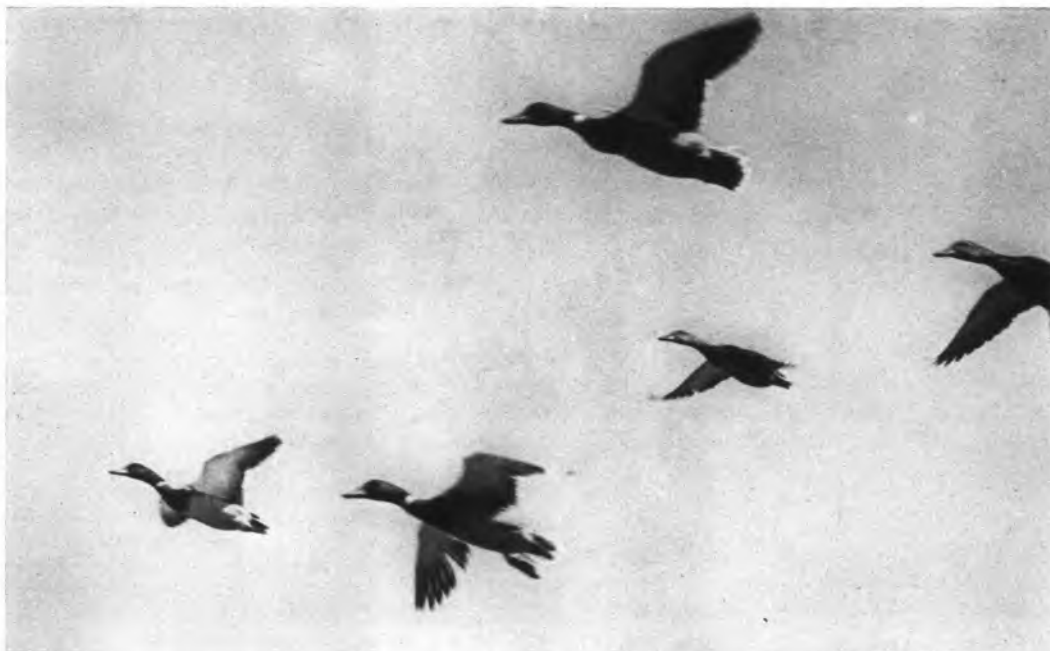
On Eglin Field, during the 1961-62 hunting season, 221 bow and arrow hunters bagged 17 deer during the archery season; the gun hunt produced a reported kill of 510 deer. There was a reported kill of 760 deer during the 1960-61 season.

The 1961-62 deer population estimate on the Ocala Area was around 7,000. The herd has remained

about the same in total population since 1959, and a 20-percent harvest was set as reasonable kill figure. The 1961-62 total legal buck deer kill was estimated at about 436; the figure derived at by doubling the deer kill figure checked at the two hunt headquarters buildings.

**Table 2. WILDLIFE MANAGEMENT AREAS OPERATED DURING THE 1960-61 HUNTING SEASON**

Area	Open to Hunting	Closed to Hunting	Ownership	Location by County
1. Eglin Air Force Reservation	390,000	70,000	U.S. Air Force	Santa Rosa, Walton, Okaloosa
2. Blackwater	85,000		Florida Forest Service	Santa Rosa, Okaloosa
3. Roy S. Gaskin	118,300		Private	Gulf, Bay, Calhoun
4. Liberty	133,120		U.S. Forest Service	Liberty
5. Aucilla	110,000		Private	Wakulla, Jefferson, Taylor
6. Steinhatchee	206,500	18,500	Private	Dixie, Lafayette
7. Osceola	92,000		U.S. Forest Service	Columbia, Baker
8. Lake Butler	89,000	7,000	Private	Union, Baker, Columbia
9. Little Talbot Island		250	Florida Park Service	Nassau
10. Gulf Hammock	100,000	20,000	Private	Levy
11. Ocala	203,680	46,280	U.S. Forest Service	Marion, Putnam, Lake
12. Tomoka	90,000	5,000	Private	Volusia
13. Citrus	41,000		Florida Forest Service	Citrus
14. Farmton	60,000		Private	Volusia
15. Croom	17,000		Florida Forest Service	Hernando
16. Richloam	63,000		Florida Forest Service	Hernando, Pasco, Sumter
17. Avon Park	108,000		U.S. Air Force	Polk, Highlands
18. Okeechobee	16,000		Private	Okeechobee
19. Fisheating Creek	100,000	175,000	Private	Glades
20. Cecil M. Webb		62,000	Game & Fish Commission	Charlotte
21. J. W. Corbett	90,000		Game & Fish Commission	Palm Beach
22. Lee	40,000		Private	Lee
23. Collier	300,000	50,000	Private	Collier
24. Everglades	725,300		Central and Southern Florida Flood Control District	Palm Beach, Broward, Dade
25. Apalachee	6,000	1,000	U.S. Corps Engineers	Jackson
26. Camp Blanding	60,000	10,000	State Armory Board	Clay
27. Leon-Wakulla	67,000		U.S. Forest Service	Leon, Wakulla
28. Guano River	10,000		Private	St. Johns
29. Devil's Garden	40,000		Private	Hendry



Flight of mallards swinging in low over northwest Florida Lake.

Photos By Wallace Hughes

### Florida Waterfowl Survey

Major phases of investigations work on the state-wide waterfowl survey project for 1961-62 are enumerated as habitat studies, population studies, life history and population dynamics studies, and administration.

Development potentials for waterfowl were investigated at Camp Blanding, Eglin Field, Panama

City's North Bay and West Bay, and the Woodruff Development Area.

Experimental waterfowl food plantings of various types were performed, and several habitat manipulation practices were attempted to induce natural growths of duck foods in areas of dense noxious vegetation.

(Continued on next page)

**Table 3. WILDLIFE MANAGEMENT AREAS OPERATED DURING THE 1961-62 HUNTING SEASON**

Area	Open to Hunting	Closed to Hunting	Ownership	Location by County
1. Eglin Air Force Reservation.....	390,000	70,000	U.S. Air Force.....	Santa Rosa, Walton, Okaloosa
2. Blackwater.....	85,000		Florida Forest Service.....	Santa Rosa, Okaloosa
3. Roy S. Gaskin.....	118,300		Private.....	Gulf, Bay, Calhoun
4. Liberty.....	133,120		U.S. Forest Service.....	Liberty
5. Aucilla.....	110,000		Private.....	Wakulla, Jefferson, Taylor
6. Steinhatchee.....	206,500	18,500	Private.....	Dixie, Lafayette
7. Osceola.....	92,000		U.S. Forest Service.....	Columbia, Baker
8. Lake Butler.....	89,000	7,000	Private.....	Union, Baker, Columbia
9. Gulf Hammock.....	100,000	20,600	Private.....	Levy
10. Ocala.....	203,680	46,280	U.S. Forest Service.....	Marion, Putnam, Lake
11. Tomoka.....	90,000	5,000	Private.....	Volusia
12. Citrus.....	41,000		Florida Forest Service.....	Citrus
13. Farmton.....	60,000		Private.....	Volusia
14. Croom.....	17,000		Florida Forest Service.....	Hernando
15. Richloam.....	63,000		Florida Forest Service.....	Hernando, Pasco, Sumter
16. Avon Park.....	108,000		U.S. Air Force.....	Polk, Highlands
17. Okeechobee.....	16,000		Private.....	Okeechobee
18. Fisheating Creek.....	100,000	175,000	Private.....	Glades
19. Cecil M. Webb.....		62,000	Game & Fish Commission.....	Charlotte
20. J. W. Corbett.....	90,000		Game & Fish Commission.....	Palm Beach
21. Lee.....	40,000		Private.....	Lee
22. Everglades.....	725,300		Central and Southern Florida Flood Control District.....	Palm Beach, Broward, Dade
23. Apalachee.....	6,000	1,000	U.S. Corps Engineers.....	Jackson
24. Camp Blanding.....	60,000	10,000	State Armory Board.....	Clay
25. Leon-Wakulla.....	67,000		U.S. Forest Service.....	Leon, Wakulla
26. Guano River.....	10,000		Private.....	St. Johns
27. Devil's Garden.....	40,000		Private.....	Hendry



Photo By Wallace Hughes

In addition to improving hunting conditions, food plot planting can provide additional income for the landowner.

### Farm Game Habitat Restoration

Activities during 1961-62 included evaluations of quail food plantings established from planting material distributed to landowners the previous year. Primary purpose of the study was to learn more about cultural management and wildlife utilization of browntop millet.

It was found that browntop is a good dove food, but not preferred to the extent of corn.

Studies show that combine pea is a fair quail food, but poor for turkey. Turkeys will not utilize it as long as other preferred foods are available.

A new practice, G-4, into the Agricultural Conservation Program is a big move in obtaining further wildlife management on private lands. The management of forested lands for natural wildlife food production has become popular in Florida.



Photo By  
Wallace Hughes

Under the Mourning Dove Study project, trapping at West Palm Beach continued successfully, with a life total of 45,623 doves trapped at the end of the biennium; of these 19,799 were repeats.



Photo By Leonard Lee Rue 111

Although the Wild Turkey is not included in the top five game birds and animals, it is game often bagged by deer and squirrel hunters, as well as those exclusively in quest of this great Florida wild game bird.



Photo By Wallace Hughes

Gray Squirrels are always plentiful, and hunting of the bushytails is popular statewide with Florida hunters.

#### North Florida Management Area Development

Sixty five turkey feeders and 125 quail feeders were maintained on the Gulf Hammock, Richloam, Citrus, Croom, Farmton, Tomoka, Blackwater, Camp Blanding and Lake Butler areas. Approximately 38,000 acres were controlled burned on the Farmton,

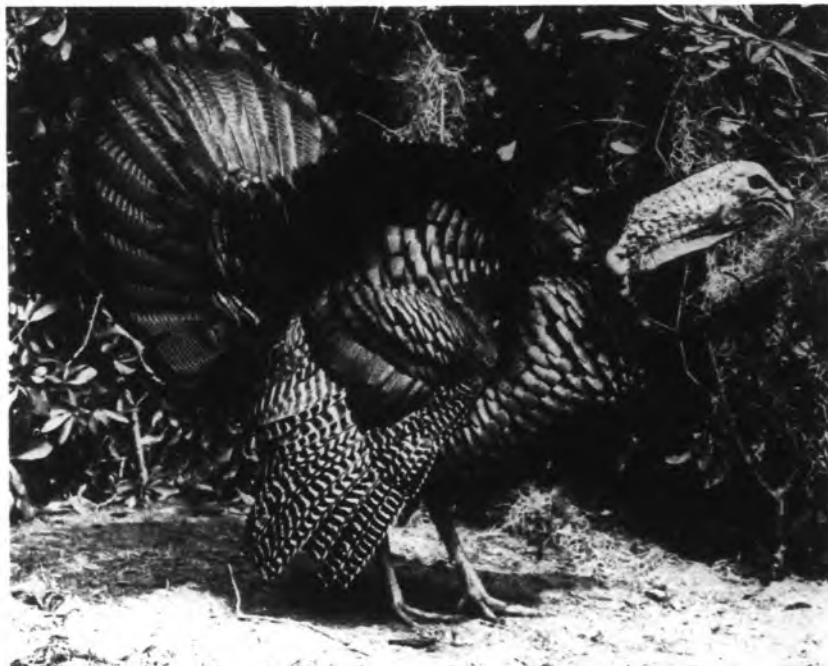
Tomoka, Blackwater and Lake Butler areas.

Other activities included filling and dredging bodies of waters, exotic bird introduction, mourning dove studies, and meetings concerning management and regulations.

(Continued on next page)

**Table 4. SUMMARY OF ACTIVE PITTMAN-ROBERTSON PROJECTS OPERATED IN 1960-61**

Project	Name	Purpose	Estimated Total Cost
W-8-L	Charlotte County Game Management Area Acquisition	Exchange of land to consolidate Commission holdings	\$ None
W-11-R	Charlotte County Quail Investigation	To study ecology of south Florida quail	7,000.00
W-13-C	Wildlife Management Coordination	To administer and supervise program	20,350.00
W-15-D	Habitat Restoration for Farm Game	To improve quail habitat	8,000.00
W-19-R	Florida Waterfowl Survey	To study waterfowl ecology	6,600.00
W-22-R	Mourning Dove Study	To study dove populations and migrations	4,350.00
W-27-R	Eglin Field Deer Investigation	To study deer populations and management	2,000.00
W-32-R	Ocala Deer Investigation	To study deer populations and management	1,300.00
W-33-R	Wildlife Inventory, Harvest and Economic Survey	To learn statewide harvest and hunting pressures	15,600.00
W-35-D	North Florida Management Area Development	To develop management areas in north and central Florida	92,000.00
W-39-R	Wildlife Investigation of the Central and Southern Florida Flood Control Project	To develop management and operational methods	18,000.00
W-41-R	Management Area Research	To study game populations and make management recommendations	16,500.00
W-43-D	Wildlife Development of the Central and Southern Florida Flood Control Project	To develop Everglades Area	10,800.00
W-45-D	South Florida Management Area Development	To develop management areas in south Florida	80,000.00
W-46-D	Woodruff Reservoir Development	To management area development	14,000.00
W-47-D	Guano River Development	To lease the waterfowl management area developed through construction of a dike and water control structure, and to develop additional food production areas	17,500.00
FW-1-R	Cooperative Statistical Project	Statistical aid in research projects by the Institute of Statistics at North Carolina State College	1,250.00
			<b>\$315,250.00</b>



The annual turkey trapping program on the South Florida Management Area netted 328 wild turkeys for relocation throughout the state. This 1962 catch established an all time trapping record.

#### Guano River Development

Squirrel, quail, dove, gallinule, deer and hog reached suitable populations for hunting on the Guano River area for the 1961-62 hunting season. Four additional wild turkeys were transplanted to supplement those released the previous year and brood production has been apparent.

Observations north of the area suggest turkey

hatching the first week of May with six poults about two weeks old viewed around mid-May.

Hunting and fishing revenue from the area during 1961-62 totaled \$75,583.34, compared to \$58,159.50 during 1960-61 when only fishing and waterfowl hunting were permitted.

**[Table 5. SUMMARY OF ACTIVE PITTMAN-ROBERTSON PROJECTS OPERATED IN 1961-62]**

Project	Name	Purpose	Estimated Total Cost
W-8-L	Charlotte County Game Management Area Acquisition	Exchange of land to consolidate Commission holdings	\$ None
W-11-R	Charlotte County Quail Investigation	To study ecology of south Florida quail	7,000.00
W-13-C	Wildlife Management Coordination	To administer and supervise program	19,300.00
W-15-D	Habitat Restoration for Farm Game	To improve quail habitat	6,800.00
W-19-R	Florida Waterfowl Survey	To study waterfowl ecology	6,700.00
W-22-R	Mourning Dove Study	To study dove populations and migrations	6,600.00
W-27-R	Eglin Field Deer Investigation	To study deer populations and management	3,500.00
W-32-R	Ocala Deer Investigation	To study deer populations and management	2,100.00
W-33-R	Wildlife Inventory, Harvest, and Economic Survey	To learn statewide harvest and hunting pressures	9,800.00
W-35-D	North Florida Management Area Development	To develop management areas in north and central Florida	72,300.00
W-39-R	Wildlife Investigation of the Central and Southern Florida Flood Control Project	To develop management and operational methods	13,400.00
W-41-R	Management Area Research	To study game populations and make management recommendations	17,648.00
W-43-D	Wildlife Development of the Central and Southern Florida Flood Control Project	To develop Everglades Area	14,500.00
W-45-D	South Florida Management Area Development	To develop management areas in south Florida	66,000.00
W-46-D	Woodruff Reservoir Development	To develop management area	19,625.00
W-47-D	Guano River Development	To lease the waterfowl management area developed through construction of a dike and water control structure, and to develop additional food production areas	19,900.00
FW-1-R	Cooperative Statistical Project	Statistical aid in research projects by the Institute of Statistics at North Carolina State College	937.50
			<b>\$286,110.50</b>



The goose-like Fulvous Tree Duck is rare in Florida. These birds were photographed on the St. Marks National Wildlife Refuge, in northwest Florida.

#### Woodruff Reservoir Project

Activities during 1961-62 included construction of dikes, planting and unundation of waterfowl food plantings, supervising corn production, and harvesting through crop lease agreements.

Quail hunting proved successful with 910 birds bagged equalling a harvest of about one bird per three acres. The area was opened to gobbler hunting during the spring turkey season, with four kills reported in the two week period.

Approximately 500 acres of corn planting provided food for quail, turkey, dove, deer and pheasants.



Photos By Wallace Hughes



The drake PINTAIL, though not brightly colored, is as elegant and handsome as any of our ducks. With brown head and long white neck and breast, he looks as if he would be at home at a formal-dress party. Long, sharp-pointed tail feathers give the Pintail its name.

Florida sportsmen consider the Bobwhite Quail as first choice in their poll for favorite game birds and animals.



## For Better Fishing

**F**RESH WATER FISHING provides countless hours of outdoor recreation for both residents and visitors in the Sunshine State. People fish in Florida's fresh waters because they enjoy fishing, because they catch fish, because it provides them recreation and pleasure without a great investment, and because the fresh water fish of Florida are valued as table fare. A valuable resource such as this deserves the close attention of all concerned.

The Fisheries Division of the Florida Game and Fresh Water Fish Commission, in its endeavors to manage, restore, conserve and regulate the fresh water fish of this state, is indeed vitally concerned with this resource.

What follows is a resume of the various programs and projects which have contributed to the over-all accomplishments of the Fisheries Division during this biennium with descriptions of some of the typical activities carried out in each area of research or service.

### Regional Services

The five men who bear the title "Regional Fishery Biologist," one in each of the Commission's five ad-

## Fisheries

ministrative regions, are, perhaps, collectively, the unsung backbone of the Fisheries Division.

Their work load and the variety of roles in which they find themselves cast from day to day has snow-balled during the biennium.

With the accelerated interest and activity on the part of a public made aware of the needs in such areas as pond and lake creation and management, water pollution control, and concern with fishing in public as well as private waters, the growing number of calls for information and/or assistance from the regional technician has been both understandable and encouraging.

But as if response to these requests did not create full-time jobs in themselves, it is the business of regional biologists to make themselves available to investigate and submit recommendations on all dredging or pumping and filling activities around public waters, to answer inquiries to do with such things as fish identification, fish parasite problems in farm ponds, details on lake and pond construction and stocking, aquatic vegetation control, renovation of established waters, and even the occasional problem 'gator in the wading pool!

A regional biologist also has to be a fair country lawyer since he deals firsthand with the legal aspects of obtaining easements for proposed boat ramp sites and invariably spends many hours per year looking up property deeds and plats in the county courthouse in connection with questions of lake bottom ownership and the likes.

Regional men have unquestionably had more direct contacts with the fishing public during the biennium than any other members of the division. They have indeed become "institutions" in their spheres of influence and their work has meant more than 25,600 acres of improved fishing waters for the state.

### Noxious Vegetation Control Program

Investigations in years past confirmed suspicions that the water hyacinth was detrimental to the game fish population of a lake or river.

Drifting mats of hyacinths can cover spawning areas, the dangling roots sweeping muck and sand through the beds. Sunlight is completely shut off, causing the death of desirable underwater vegetation which plays host to the smaller organisms which are essential to a healthy fish population.

While agencies other than the Game and Fresh Water Fish Commission have been interested in controlling and progressively eradicating hyacinth in the interests of navigation, flood control, and mosquito control, the Commission has been dedicated to clearing the pesky plants from public waters in order to open more of same to fishing and to improve fishing in those waters.

In application a chemical is sprayed, under pump pressure, usually from an air-boat or outboard boat,

sometimes from an airplane, on the offending rafts of hyacinth.

The chemical, 2,4-D, is a hormone type-herbicide which, when absorbed by a plant, literally forces the plant to grow itself to death. The chemical is relatively inexpensive, easy to apply, and is non-injurious to humans, livestock, fish, and fowl if used as directed. Two primary types are offered—the amine and the ester. Both have their uses in hyacinth control.

With either the amine or the ester 2,4-D, the standard, most-effective mixture is 1 to 100. To treat one acre of hyacinths, it takes  $\frac{1}{2}$  gallon of the ester type,  $\frac{3}{4}$  gallon of the amine type. Average cost per acre is about \$8.03 (\$2.99 for chemicals, \$5.04 for operational expense).

Current operating funds come from the sale of hunting and fishing licenses, and state-legislature-appropriated money, with \$127,700 from a cooperative program with the corps of engineers in which the state supplies 30% work-in kind money, the Federal Government the other 70%.

During a single six-month period from January to June 30, 1962, the Hyacinth Control Division, operating eleven airboat crews and one airplane sprayed a total of 5,820 gallons of chemicals to kill hyacinths on 75 bodies of water in 33 counties. Acreage of hyacinths and other vegetation treated was 12,685.

The battle continues. New herbicides and new techniques are constantly being tested, not only against the hyacinth, but against the whole group of plants labeled "noxious." This includes alligator

*(Continued on next page)*

## Division

JOHN WOODS, Chief



Florida's water hyacinth is a long-time enemy of the fresh water angler. Climatic conditions are perfect for their rapid growth, and eradication control is a never ending phase of fish management needed to keep good fishing waters open.

Photo By  
Art Runnells



Photo By Wallace Hughes

Special lake and stream management programs must be continuous to weed out undesirable fish species so that bumper crops of gamefish will be available for sports fishing. The special eradication techniques through selective poisoning will become more and more important. The more rough fish that can be destroyed, the greater the game fish populations will become.



Photo By Gene Smith

*(Continued from preceding page)*

weed, water lettuce, cattail, maiden cane, water willow, button bush, and coontail, to name a few.

The noxious vegetation program covers the entire state. Areas on watersheds under treatment (or completed) are: Fisheating Creek, Caloosahatchee River, Harney Pond Creek, Indian Prairie Creek, Taylor Creek, Lake Istokpoqa, Peace River, Myakka River, Manatee River, Little Manatee River, Alafia River, Hillsborough River, Upper St. Johns River, Withlacoochee River, Oklawaha River, Santa Fe River, Suwannee River, Aucilla River, Wacissa River, Ochlockonee River and the Apalachicola River.

#### **Fish Restoration Project**

Funds are provided by this project for all major lake renovations by the method of chemically treating waters for removal of undesirable fish, notably the gizzard shad.

Previously, these monies were provided by legislative appropriation to the Game and Fresh Water

Fish Commission but during the biennium this particular appropriation was discontinued. Funds for continuation of the project have since been provided by increased revenue from the sale of fishing licenses, the increase having been brought about by changes in the license structure effected by the legislature.

These changes replaced the non-resident state license @ \$10.00 with one for \$8.50 and replaced the non-resident 3-day license @ \$1.00 with a 5-day one for \$2.00.

Through techniques largely perfected in Florida, utilizing new and powerful fish toxicants, many millions of pounds of trash fish have been eliminated in operations over the state.

Great sums of money have been expended in this continual program of shad control—all aimed at "shortening the time between bites" for Florida fishermen through scientific application of the latest techniques in fish population manipulation. Chemicals purchased with Restoration Project funds have been used in all major chemical treatments of lakes.

### Hatchery Facilities

Hatchery-raised fish in Florida are produced and distributed from two hatcheries operated by the Fisheries Division. The Holt Hatchery in West Florida produces and distributes bass, bluegill, and shellcracker. The hatchery near Winter Haven deals only with bass production.

Additional fish of each species are obtained from the hatchery operated by the U. S. Fish and Wildlife Service at Welaka, Florida for filling stocking orders in every region of the state.

Deliveries of hatchery produced fingerlings result when restocking of totally renovated bodies of water is necessary and when lake or pond owners have applied for assistance and have had their waters checked by regional fishery biologists, who have then ordered the correct numbers of each species required for bringing the populations into more favorable balance.

Stocking as a fish management tool is most valuable when the waters are "new" and unpopulated, as is the case with freshly built lakes or ponds and with totally renovated bodies of water, that is, those in which the existing fish populations have been eliminated through chemical treatment or severe drawdown or both. Personnel from these facilities stocked more than 5 million fingerling bass, bluegills, shellcrackers and channel catfish during biennium.

### Federal Aid to Fisheries

Next time you walk out of a tackle shop clutching that reel you've always yearned for, or the latest lure that you can't fish without, take a moment to consider that your purchase has helped the cause of sport fishing throughout the entire United States.

For on every dollar spent on tackle and accessories, the Federal government collects an eleven-cent excise tax. Money in the Federal kitty is then apportioned to the states, the amount determined by a formula which compares the number of license buyers, in a particular state to the total in all states, and the area of that state to the area of the whole country.

Two-men teams were used as special Lake and Stream Survey crews, to perform complete inventories on various watersheds. Reports and survey maps are published for the public, after appearing as feature articles in Florida Wildlife Magazine.



### PLEASANT GROVE FISH MANAGEMENT AREA AGRICO SECTION

PUBLIC FISHING WATERS  
DEVELOPED BY THE FLORIDA GAME  
AND FRESH WATER FISH COMMISSION  
AND HILLSBOROUGH COUNTY ON  
LAND MADE AVAILABLE BY THE  
AMERICAN AGRICULTURAL CHEMICAL COMPANY  
A FEDERAL AID PROJECT

Photo By Bill Hansen

Federal Aid to Fisheries includes fresh water lake and stream improvement for better angling, and in some cases the creation of "new" fishing waters.

This Federal Aid in Fish Restoration Act of August 9, 1950 (better known as the Dingell-Johnson Act), is currently supplying about \$128,000 a year to Florida, money which plays a vital role in helping to maintain and to improve our state's famous fishing.

When a needed project has been proposed, planned, and given the green light, the Florida Game and Fresh Water Fish Commission carries out the plan, spending its own funds. The state then submits reimbursement claims for 75% of the cost of the project, either periodically or at completion of the work. The remaining 25% of the project expenditure is financed out of Commission funds collected from fishing license sales.

All equipment, lands, and structures become the property of the state. All project workers are hired by the Commission and are state employees.

These projects were among those active in Florida during the biennium:

### Lake and Stream Survey

With D-J support, the F-6-R project has continued to function according to plans which, if continued, (Continued on next page)

(Continued from preceding page)  
will provide the state with its first complete inventory of all its major lakes and streams.

The two teams, consisting of a fishery biologist and an aide each, worked according to watersheds. The information gathered, concerning fish populations and other ecological data in addition to fishing pressure figures and practical fishing information, is published periodically in the form of popular reports along with maps of the watersheds surveyed.

Such publications, designed for practical use by fishermen, have to date been made available on the Apalachicola River System, the Choctawhatchee Watershed, and on Southeast Florida, covering Lake Okeechobee, the canal system, Blue Cypress Lake, and the marshy Conservation Areas.

Field work was also carried forward on the Yellow and Shoal River Watershed and the Suwannee River Watershed, the latter having been described in a mimeographed Preliminary Report.

In addition to publication of descriptive bulletins and fishing maps, valuable fish population and chemistry data have been filed which will prove invaluable in the formation of future management plans for the areas surveyed.

#### **River Basins—Fishery Investigations F-8-R**

This D-J project evaluates the activities of state and federal water control agencies which may be detrimental to Florida's sport fishing. Suggestions are made to these agencies whenever it appears as though their plans may prove detrimental. Nine significant reports have been prepared to date.

The project boundaries include all or part of seventeen central and south Florida counties, and some of Florida's major rivers and lakes; i.e., the Kissimmee River, Lake Okeechobee, Caloosahatchee, and a major portion of the St. Johns River.

#### **Everglades Fishery Impoundment Investigations F-16-R**

The Everglades Fishery Impoundment Study has been primarily concerned with research in the interest of adding to the total knowledge of the Florida sport fishery.

Chief among its accomplishments has been the study of the varying rates of growth of the Florida largemouth bass and the Northern largemouth bass. Both fishes are found in Florida but the range of the Florida Bass excludes him from the Suwannee River drainage and westward.

The southern, or Florida form can be distinguished by having smaller scales, higher scale counts, larger size, and in some instances by coloration.

This investigation was designed primarily to determine the seasonal growth of the largemouth bass in South Florida and to relate its growth to the ecological changes in the area.

Three ponds near Fort Lauderdale were stocked with Florida largemouth bass fingerlings in April, 1960 and in July, 1960 two ponds were stocked with

Northern largemouth bass fingerlings imported from Iowa.

During the study period, which was from April, 1960 to July, 1961 project personnel made periodic samples from each pond during which each fish collected was anesthetized, weighed in grams, measured in millimeters, and returned to the pond.

Careful water temperature checks were also made which indicated that the water temperature range in South Florida is suitable for year-round growth of largemouth bass and further that bass grow fastest when that temperature is 80°F and above.

The data also suggested that the northern bass would probably grow as well as the southern, or Florida form if given the same environmental conditions.

However, the Florida bass became sexually mature and spawned eight months after stocking while the northern bass were not sexually mature at the termination of the study.

The results of this study were presented in a paper to the Ninety-Second Annual Meeting of the American Fisheries Society in September, 1962 at Jackson, Wyoming by the project leader and author, James P. Clugston.

#### **Public Boat Ramp F-13-D**

This project continues to be one of the best received of all Federal Aid projects.

The needs are great in this area of activity and the Boat Ramp Project is proving to be a valuable tool in that it assures the rights of fishermen and boaters to access to our public waters.

Easements to ramp sites are acquired through arrangements with private citizens, cities, and counties.

The selection of sites is governed by the needs of



The Striper is worth patronizing. It is a prime food fish—grows big—and is a tough, maneuverable gamester when hooked.

Photos By  
Wallace Hughes



the particular body of water for access. Often there are bodies of water or long stretches of river or stream totally without access facilities. These are given primary consideration, with final site selection being dependent upon satisfactory lease or purchase arrangements and favorable geographical locations for the proposed ramps.

The boat launching ramps completed during the biennium reflects the work required to make available 16,937 additional acres of pond, lake, or reservoir waters and 190 additional miles of rivers, streams, or creeks.

#### **Anadromous Fish Study F-10-R**

Salt-water species which spawn in fresh water are of considerable interest to sport-fishermen in Flor-

ida. If you have thrilled to the antics of a St. John's river shad, or to the power of a striped bass from the Jim Woodruff Dam waters, you can understand the enthusiasm behind this project.

At present, sport fishing for the American shad (*Alosa sapidissima*) on the St. John's River has developed to a high degree thanks to the efforts of a Central Florida newspaper. While it could compare favorably, the shad fishing in the St. Mary's River and the Apalachicola River drainage system has not yet been promoted.

Striped Bass (*Roccus saxatilis*), while appearing to be in the southern extreme of their range in Florida, do occur in abundance in the Apalachicola drainage, and the sport-fishing for this prize fish is slowly developing.

A Federal Aid project sponsored by Dingell-Johnson money, this work touches on the fish in Florida which are anadromous. These are the fish which normally spend their life in salt water but which come into fresh water streams and rivers to spawn. Like the sturgeon. Or the American or Alabama shad. Or the striped bass.

"He's unpredictable, temperamental, and can make you out a liar right quick," says Jimmy Barkuloo, speaking out on his favorite subject, the striped bass, and the prospects of hooking into one.

The goal of this project is to increase the stripers' numbers in Florida. And it is not as simple as it sounds. In many ways the striper is still a mystery fish—despite constant and dedicated prying into its life.

Much of this project's effort is involved with catching stripers to tag them and to record other data such as length and weight. The tagged fish, caught again at a later date, supply valuable information.  
(Continued on next page)



Fishing waters are everywhere in Florida, but too often the angler is hard pressed to find access points. More than 100 launching ramps have been built by the Commission in recent years.



Close to a million dollars flows into the state's economy from increasingly popular American Shad sports fishing pursuits along the St. Johns River.

(Continued from preceding page)

mation regarding growth rate and migration activities.

Private organizations have an interest in stripers, too. This past September, the Izaak Walton League of Stuart financed a project in which Barkuloo brought a load of stripers from Chesapeake Bay down to the St. Lucie River (not without its problems—the first load died en route!) where they freed them north of Stuart. The project is being watched with interest and with hopes that the majority of the stripers will survive and become established. If they get off a successful spawn once in ten years, the project will be labeled a success. Meanwhile, the fish are protected by special legislation in Martin and St. Lucie counties for at least four years.

This fish is definitely worth promoting, and, thanks to your tackle and license purchases which help supply the Federal money for the research, it looks as though striper fishing in Florida will be an ever-increasing reality.

The American shad reach sexual maturity between the third and the fifth year, then head up the

river to spawn, and, if in the St. Johns, to complete their life cycle, and die.

Fishing for shad in that area of the St. Johns generally east of Sanford has reached a height of sophistication. February through March is the best time to fish for them, with prime-time from mid-February through mid-March.

On Florida's West Coast from the Suwannee up through the Panhandle, shad are almost entirely neglected. Project personnel have found them in numbers in most of the major drainages, such as; the Suwannee River Drainage, where he has netted them at the mouths of the Sante Fe, Dead Bay and Withlacoochee rivers, at the Bellville Bridge on the Withlacoochee, at Alligator Pass, and at Fowler Bluff.

In the Yellow River Drainage, shad have been netted at the mouth of Shoal River and ½ mile below the Oakgrove Bridge on Highway #2.

The mouth of Holmes Creek in the Choctawhatchee River Drainage has yielded some young shad but the spawning area of the adults has not yet been located.

The Alabama Shad, common in the Panhandle river systems, has been largely ignored by fishermen.



Shad were numerous in the creeks of the Econfinia-Bear Creek Drainage system before the Deer Point Dam was constructed in November, 1961. Barkuloo predicts that stretch of water immediately below the dam will have a good potential.

The best places to find shad on the West Coast and Panhandle is in the Apalachicola River Drainage, especially at the tailrace of the Jim Woodruff Dam, and below the dam at the Dead Lakes and junction of the Chipola River and Chipola Cut-off ½ mile south of the Dead Lakes Dam.

Project personnel have netted adults from all the above-mentioned areas between February and May with the biggest roe shad taken between February and March.

These shad are the Alabama shad, thought by some to be a separate species, by others to be a variety of the American shad.

#### **Lake Management F-12-D**

When a lake or river, vital to the economy and recreation of a community, develops a pattern of poor fishing, management methods are frequently applied to restore the lake to its former productivity and also to show the public how these management practices can be of direct benefit to the people in the community.

Bodies of water treated were Merritts Mill Pond, Guano River Impoundment, Newmans Lake, North Bay, now Deer Point Lake, Lake Trafford, Lake Parker, and Lake Hollingsworth.

Deer Point Lake was created by the impoundment of a brackish water area of North Bay, in Bay County. The new lake has an area of approximately 5000 acres and a 220 mile shoreline.

After impoundment the lake changed from brack-



Lake Management programs restore "fished out" waters to normal productivity, often improving local economy.

ish to strictly fresh water in a matter of months, being fed by four sizable natural streams.

The dam was constructed by the county but the lake is under the joint management of the Game and Fresh Water Fish Commission and the Board of County Commissioners for Bay County.

#### **Fishery Management Research F-14-R**

In the spring of 1960, Dingell-Johnson money was granted Florida for Fish Management Research. In this multi-faceted project are clumped all the problems which, when solved, will improve the fish and the fishing within our state.

By far the most promising of the research efforts under this project is the evaluation of the Nile bream, *tilapia nilotica* to biologists, as a catchable food fish in Florida.

Elaborate plans have been made for controlled experiments in reclaimed phosphate pits in the Tampa-St. Petersburg area. Total water acreage will be about 505 acres which will be sufficient space in which to find most of the answers about this potentially important imported fish. ●

Newest game fish made available to Florida anglers, through Fishery Research, is the Tilapia—stocked in the management area phosphate pits near Tampa.

# Information and Education

JAMES FLOYD, Chief



**I**N GENERAL, the Information and Education section is charged with the responsibility of informing and educating the public to proper conservation methods and practices. It is vitally concerned with publicizing the activities and policies of the Florida Game and Fresh Water Fish Commission. It is always interested in maintaining good relations between the sportsmen and the Commission. It is, of course, interested in employee training and morale. It must, at all times, work in cooperation with all branches of the Commission in all fields, and it must attain continuous and complete contact with all Commission employees and programs. Essentially, the Information and Education Division is a service department—offering its service to all persons connected with the Commission, and to all sportsmen and citizens of Florida and the United States.

To accomplish this duty, the Division uses many programs, methods and ways of informing and educating the interested public.

## Operations

Operational procedures and policies of the Information and Education Division are outlined as follows:

By its nature, the Information and Education program carried on by the Florida Game and Fresh Water Fish Commission is both intricate and widely diversified.

In all, the Information and Education Division is responsible for carrying on a total of 15 major inter-related programs that fall roughly into the five general classifications of Information, Education, Publicity, Public Relations and Internal Employee Training.

The 15 major programs that are carried on simultaneously are: Publications, Films and Film Libraries, News Releases, Fair Exhibits, Radio, Television, Newspapers, Photography, Public School Resource-Use Education, Lectures, Information Requests, Special Promotions, Organizations and Conventions, Junior Conservation Clubs and League, and Liaison work.

Each of these 15 major programs contains, of

course, many minor and varied programs and projects.

In general, the Information and Education work is carried on two main levels: Out-of-State Information and Education, and Intra-State Information and Education. Of the two, the Intra-State work has always been considered the more important phase of the Commission's I&E work.

The Out-of-State I&E program is carried on primarily through the office in Tallahassee. In its essence, the theme of any programs designed for out-of-state dissemination is to publicize the great potentialities of fishing and hunting in Florida. Much of this work is involuntary in that it is done at specific requests from persons, concerns and states outside of Florida.

The Out-of-State work continues to be necessary and desirable just so long as the national interest in Florida's fishing and hunting continues to grow so rapidly as the result of invaluable publicity received in countless national magazines, newspapers, books, television programs and motion pictures. The out-of-state work undoubtedly results in the arrival of many hundreds of out-of-state visitors—fishermen and hunters—and many prospective permanent residents.

The Intra-State work of the Information and Education Division is considered to be of most vital interest to the Florida Game and Fresh Water Fish Commission. This is because of the primary duty and responsibility of the Game Commission is to the Florida citizens who purchase licenses to fish and hunt within the state.

The I&E Division is primarily charged with the responsibility of informing and educating the general public as to the policies, the work programs, the game and fish laws and the management practices which are being set into motion by the Commission.

The I&E Division is not, and has never been considered to be, a propaganda machine. Nor is it the "brain" of the Commission. It serves, instead, as the "tongue" of the Commission, giving voice, in all possible ways, to the official policies and practices of the Commission. In order to do its job, the I&E

Hunter safety afield, and firearms safety education are growing requirements throughout Florida. There are a number of excellent training aids made available to volunteer instructors, and further safety program planning is being formulated.



Division is concerned only with the true facts concerning Florida wildlife and its proper conservation.

It is the duty of the I&E Division to cooperate with and assist in every possible way all writers and editors so as to help them present complete facts about fish and wildlife.

In order to effect an efficient 15-point program on a state-wide basis the Staff Officer known as the Chief of Information and Education has the assistance, cooperation and advice of five Regional Information Officers. These Officers, located in each Region headquarters office of the Commission, are completely responsible for the proper conduct of complete information and education programs in the areas encompassed by the respective Regions.

Under the Regional administrative set-up, all state-wide informational or educational programs are organized and set into motion by the Tallahassee office. The programs are then carried out on a Regional, or local, basis by the Regional Officers.

#### **Publications**

The I&E Division cooperates with the staff of FLORIDA WILDLIFE Magazine who edits and produces the majority of pamphlets, booklets and brochures published for distribution by the Commission as an aid to properly inform and educate interested persons as to the importance of all wildlife and conservation responsibilities.

#### **Films and Film Libraries**

The Division maintains six film libraries throughout the state at its Central and Regional Offices. These films—mainly 16mm. color-sound—are available to interested groups for educational and instructional purposes. Both Commission-produced films, and films produced by outside interests, are utilized in the loan libraries.

#### **News Releases**

Statewide news releases are processed and distributed by the Tallahassee office. Region-wide news releases are processed and distributed by the Regional Information Office. News releases are one of the most important programs carried on by the I&E Division, for it is only through this medium that most newspapers, radio stations, television stations,

editors, outdoor writers and interested sportsmen obtain authoritative information concerning current Commission policies, programs, activities, and rules and regulations.

#### **Youth Conservation Education**

The Conservation Education Extension Section, a phase of the over-all I&E operation, is concerned with teaching and training the youth of Florida in regard to the wise use of Florida's natural resources. This is accomplished through a program which embraces youth conservation clubs, scouting in conservation and a summer conservation camping program.

#### **Exhibits**

Many exhibits are installed at conventions, assemblies and fairs throughout the state. All such exhibits feature official Commission policies and programs as themes. The exhibits are scheduled, constructed and exhibited through the initiative and resources of the respective Regional offices.

#### **Radio**

Radio activities were confined mainly to personal appearances by Regional Information Officers and personnel on local radio stations and tape-recorded programs.

#### **Television**

Regional Information Officers and personnel made personal appearances on numerous television programs. During a twelve-month period, the five Regional Information Officers made a total of 100 appearances on radio and television programs.

#### **Lectures**

All I&E Officers, as well as other employees of the Commission, are continuously available for public appearances and addresses before numerous public gatherings and organizations throughout the state.

#### **Other Activities**

Work done in handling information requests, special promotions, organizations and conventions, and public school resource-use education is a routine part of an I&E program. ●

# Radio Communications

RHETT McMILLIAN, Chief

THE Communications Section was established in 1948 with a primary function of aiding the Commission's statewide law enforcement program. This complex radio system has proven valuable in many ways to the Commission's continuous efforts in achieving greater operational efficiency with consequent savings in time and money.

In addition to serving as a law enforcement tool, the Communications section provides greater flexibility in the overall administrative activities throughout the state.

Headquarters for Communications is centrally located at New Smyrna, with all the necessary equipment required for the complex radio network operations. Here are kept accurate cost records for each radio unit, and the required stock of emergency parts and supplies. Operating manuals and signal cards prepared for Commission personnel are processed and distributed from the headquarters office.

The Communications system now consists of 289 mobile units, including airborne sets, and 34 base stations, including two at temporary sites. Two of the base stations are operated in cooperation with the State Forest Service, two in cooperation with the State Park Service, and one in cooperation with the South Florida Conservation District.

Base stations are located at New Smyrna, Molina, Munson, Eglin Field, Panama City, Bonifay, Wilma, Tallahassee, Perry, Cross City, Lake City, Starke, San Mateo, Jacksonville, Ocala, Williston, Leesburg, Tomoka, Magnolia, Lakeland, Myakka, Highlands, Okeechobee, Belle Glade, Immokalee, Miami, Trail Center, Big Cypress, Naples, Clermont, Brooksville, Safety Harbor, Keenensville, West Palm Beach, and the State Civil Defense Emergency Control Center.

Several antenna sites have been established around the state so ground mobile units may connect to the large antennas for greater distance receiving, at important points.

The Commission continues to cooperate with the Federal Civil Defense, and the system has played an important part in all disaster test alerts. The chief of communications is a member of the State Civil Defense Communications Committee.

In addition to the chief communications, the section staff consists of five technicians located at New Smyrna, Panama City, Lakeland, Lake City, and Okeechobee. Each technician maintains complete repair facilities and is responsible for the operation of an average of eight base and 56 mobile units.

The majority of the projects completed during the 1960-62 biennium have been those intended to im-



Specialized communication technicians service 289 Commission mobile radio units, and 34 base radio stations.

prove coverage, and to smooth out cooperation. A revised Operating Procedure book was published, and operating schools conducted for operators. A new class "Net Operator" was added, and the entire Procedure manual was placed on audio tape, making a new innovation in this type of teaching. ●

## STATION LOCATIONS

County	Location
Escambia	Molina
Santa Rosa	Munson
Okaloosa	Eglin Field
Bay	Panama City
Holmes	Bonifay
Liberty	Wilma
Jackson	Woodruff
Leon	Tallahassee
Taylor	Perry
Dixie	Cross City
Columbia	Lake City
Duval	Jacksonville
Bradford	Starke
Putnam	San Mateo
Levy	Williston
Marion	Ocala
Brooksville	Hernando
Volusia	Tomoka
Volusia	New Smyrna Beach
Lake	Leesburg
Orange	Magnolia
Osceola	Keenansville
Polk	Lakeland
Pinellas	Safety Harbor
Highlands	Sebring
Sarasota	Myakka State Park
Charlotte	Bermont
Okeechobee	Okeechobee
Palm Beach	Palm Beach
Palm Beach	Belle Glade
Collier	Immokalee
Collier	Naples
Broward	Hollywood
Collier	Trail Center

# The Wildlife Officer

## Law Enforcement

**V**IGOROUS enforcement of the Game and Fish laws will always be an extremely important phase of a good wildlife conservation program. It will always be necessary to have game and fish laws, and it will always be necessary to see that such laws are properly enforced.

Florida's Wildlife Officers have the tremendous task of enforcing the game and fish laws applying to approximately 39,000,000 acres of land and water within the confines of the State of Florida. With the second largest woodland area in the United States, and with over 30,000 named fresh-water lakes, countless rivers and streams, and 58,560 square miles of territory to patrol, the Florida Wildlife Officer is faced with a task that is all-important and never ending.

Our Florida Wildlife Officers are engaged in a tremendous task that is most important to the welfare of the State of Florida. The importance of each individual Wildlife Officer cannot be over-emphasized.

While in the field, the Wildlife Officer represents the authority, the responsibility, the duty and the potentiality of the entire Florida Game and Fresh Water Fish Commission. To the average fisherman and hunter, who has no other contact with the Commission, the Florida Wildlife Officer IS the Florida Game and Fresh Water Fish Commission.

It is vitally important, therefore, that our Wildlife Officers be men of good character and excellent qualifications. They must be thoroughly trained in all techniques of good law enforcement and must understand general wildlife conservation and management principles. It is important that they have both good personal character and educational background. They must have the physical stamina necessary to a lifetime of rugged work in the outdoors under difficult conditions. They must have the mental attributes necessary to keep abreast of the rapid advance in modern wildlife conservation theories.

The Wildlife Officer must, above all, be ever courteous and fair in all matters relating to the sportsmen and the general public of Florida.

The Wildlife Officer must also be capable of working independently, by himself, in wilderness areas where he cannot obtain either company, assistance or instructions. He must, in other words, be self-operating, self-governing and self-supervising at many times.

The job of Wildlife Officer is essentially the same in all Regions of the State. The Officers must, however, adapt their work procedure to fit local circumstances, such as geography, topography, population concentrations of wildlife and humans, and seasonal variations. With good transportation equipment—cars, trucks, Jeeps, airboats, marsh buggies, horses,

boats, motors, airplanes—and effective radio communications, the Florida Wildlife Officers effectively cover the entire State, insofar as is humanly practicable under present budgetary requirements.

But Law Enforcement, or the sole responsibility of enforcing the Game and Fish Laws, is not the Wildlife Officer's only duty. The Officer is also expected to serve or assist in local game and fish management work, community service, special investigations and public appearances. The Wildlife Officer is expected to make suitable speeches before organized groups, maintain his equipment in good working order, assist in fair exhibits and special promotions, and make many appearances in court. He is also concerned with maintaining good relations between the sportsmen of the state and the Game and Fresh Water Fish Commission. And, since he has specialized transportation equipment, good radio communications and the necessary experience, the Wildlife Officer is often called upon for aid in search and rescue missions involving distressed persons.

In all, the Wildlife Officer has a well-rounded schedule of duties that is extremely important in the program of conservation, protection and utilization of our fish and game.

By definition, the Florida Wildlife Officer is the man who is primarily concerned with enforcement of the Game and Fish Laws. However, all male employees of the Commission, except office janitors, are actually commissioned as wildlife officers with the duty of enforcing the Game and Fish Laws, no matter what their routine jobs might be.

There were also continuous improvements in the Training Program whereby all new Wildlife Officers undergo a brief but comprehensive training program before being assigned to their duties in the field. As a result, the inexperienced officer is much better prepared to assume the responsibilities of his new job.

All Wildlife Officers, new and old, undergo periodic Training Schools where they receive the latest information concerning all Commission programs and activities. In Training, the accent is on Fish and Game Laws, Law Enforcement Techniques, Wildlife Code, Commitment and Imprisonment, Searches, Seizures, Forfeitures, and similar topics. Other studies include the State Constitution, Game Management, Fish Management, First Aid and Safety, Federal Court Procedures, Public Relations, and many other courses of instruction.

The Florida Game and Fresh Water Fish Commission realizes that only through the cooperation of an informed and interested public can game law violators be controlled and good conservation practices be employed.

# Financial Statement

## FLORIDA GAME AND FRESH WATER FISH COMMISSION

Financial Statement—July 1, 1960, through June 30, 1962

### Statement of Cash Receipts, Disbursements, and Balances

	1960-1961		1961-1962	
	Item Total	Source Total	Item Total	Source Total
<b>Receipts:</b>				
Beginning Cash Balance July 1.....		\$ 114,286.04		\$ 32,376.30
Licenses Sold by County Judges.....	\$1,912,134.50		\$2,080,121.00	
Licenses Sold by State Office.....	52,468.85		60,820.05	
Revenue from Other Government Agencies.....	362,141.14		440,951.91	
Revenue from Use of Property.....	22,955.89		54,316.75	
Revenue from Sale of Fixed Assets.....	27,717.78		22,145.75	
Revenue from Publication of Magazine.....	32,696.72		35,354.15	
Revenue from Other Sources.....	2,477.86		36,131.27	
Total Cash Receipts Schedule "A".....		2,412,592.74		2,729,840.88
Adjustment Account.....		37.60		
Special Building Fund.....		24,114.89		28,708.36
Cancelled and Restored Warrants.....		662.50		
Total Revenue Available.....		\$2,551,693.77		\$2,790,925.54
<b>Disbursements:</b>				
Salaries.....	\$1,364,725.67		\$1,437,951.90	
Other Personnel Services.....	652.50		70,190.89	
Advertising Florida Resources.....	856.05		864.83	
General Printing and Reproduction.....	117,025.96		89,477.83	
Repairs to Equipment.....	83,401.73		83,922.43	
Telephone, Telegraph, Postage, Freight.....	43,840.50		48,333.55	
Travel.....	99,994.35		131,514.18	
Other Contractual Services.....	75,755.41		44,119.67	
Office Materials and Supplies.....	14,134.56		15,812.41	
Motor Fuel and Lubricants.....	159,716.94		177,112.22	
Other Materials and Supplies.....	66,993.47		85,125.75	
Insurance and Surety Bonds.....	41,156.14		37,454.80	
Educational, Agricultural and Scientific Supplies.....	49,749.11		39,680.24	
Parts, Fittings, and Maintenance Supplies.....	56,758.58		53,737.46	
Rental of Buildings and Equipment.....	33,073.20		29,656.99	
Other Current Charges.....			11,573.50	
Motor Vehicles.....	135,973.62		112,719.76	
Motors, Boats, Trailers.....	20,486.67		15,622.18	
Buildings and Fixed Equipment.....	4,625.20		12,745.94	
Office Furniture and Equipment.....	7,151.39		8,211.91	
Other Capital Outlay.....	47,768.76		27,187.04	
Other Expenses.....	25,010.79		40,754.57	
Transfer to Federal Government.....	32,765.98		34,777.38	
Non-Operating Service Charge.....			59,615.05	
Total Disbursements Schedule "B".....		\$2,481,616.58		\$2,668,162.48
Adjustment Account.....				19.40
County Judges Account.....		86.00		1,618.75
Transfer Special Building Fund.....		13,500.00		24,000.00
Correct Prior Year Expenditures.....				36.29
Building Construction and Furnishings.....		19,406.53		26,916.84
Total Disbursements.....		\$2,514,609.11		\$2,720,753.76
Ending Cash Balance.....		\$ 37,084.66		\$ 70,171.78
Less Special Building Fund Balance.....		4,708.36		1,791.52
Cash Balance Carried Forward June 30.....		\$ 32,376.30		\$ 68,380.26

# Schedule A

	1960-61		1961-62	
	Item Total	Source Total	Item Total	Source Total
<b>Sale of Sporting License</b>				
Fishing.....	\$900,399.50		\$986,177.50	
Hunting.....	764,226.50		800,233.50	
Trapping.....	1,518.00		2,240.00	
U.S. Permits.....	1,000.00		950.00	
Alien Hunting.....	100.00		200.00	
State Hunting Permits.....	160,535.00		168,005.00	
Archery Permits.....	10,535.00		13,425.00	
Webb Permits.....			2,790.00	
Quail Permits.....			222.00	
Dove Permits.....			1,800.00	
Previous Years Permits.....			835.00	
Total Sporting License.....		\$1,847,314.00		\$1,976,968.00
<b>Sale of Commercial License</b>				
Retail Fish Dealer.....	\$14,480.00		\$ 15,945.00	
Non-Resident Retail Fish Dealer.....	250.00		200.00	
Wholesale Fish Dealer.....	3,050.00		3,150.00	
Non-Resident Wholesale Fish Dealer.....	2,000.00		2,000.00	
Commercial Boats.....	12,688.40		12,493.65	
Previous Years Commercial License.....	28.15		5.00	
Non-Resident Commercial Boat.....	76.05		78.90	
Boat Registration Fees.....	3,311.25		2,810.50	
Nutria License.....	475.00		550.00	
Hunting Preserve.....	1,100.00		1,675.00	
Guide.....	290.00		310.00	
Game Farm.....	1,850.00		1,975.00	
Wholesale Fur Dealer and Agents.....	1,125.00		1,085.00	
Local Fur Dealer.....	60.00		110.00	
License to Exhibit Poisonous or Venomous Reptiles.....	50.00		45.00	
Total Commercial License.....		40,833.85		41,433.05
<b>Other Sources</b>				
Court Costs.....	\$39,219.70		\$41,518.00	
Miscellaneous Receipts.....	1,918.76		23,602.20	
Previous Years License Collected.....	76,455.50		122,540.00	
Federal Aid Hyacinth Control.....	5,946.76		114,151.04	
Dingell-Johnson.....	110,736.06		85,797.77	
Pittman-Robertson.....	206,238.62		199,485.10	
Sale of Magazine Subscriptions.....	31,326.68		33,830.73	
Sale of Magazine Single Copies.....	1,370.04		1,523.42	
Sale of Old Equipment.....	27,717.78		22,145.75	
Sale of Construction Materials and Equipment.....	559.10		12,529.07	
Charlotte County Grazing Lease.....	4,141.27		20,481.07	
Webb Area Marl Lease.....	569.42		594.24	
Palm Beach County Lease and Easement.....	10,000.00		10,000.00	
Stump Lease.....	6,294.20		22,490.44	
Miscellaneous Leases.....	1,951.00		751.00	
Total Other Sources.....		524,444.89		711,439.83
Total Receipts.....		\$2,412,592.74		\$2,729,840.88



*Conservation Pledge*  
**I GIVE MY PLEDGE  
 AS A CITIZEN OF FLORIDA  
 TO SAVE and FAITHFULLY DEFEND  
 FROM WASTE THE NATURAL  
 RESOURCES of MY STATE • IT'S  
 SOIL and MINERALS, IT'S  
 FORESTS, WATERS and  
 WILDLIFE**

# Schedule B

	1960-61	1961-62
	Item Total	Item Total
<b>Disbursements</b>		
Salaries.....	\$1,364,725.67	\$1,437,951.90
Professional Fees and Consultation Services.....	652.50	1,403.08
Other Personal Services.....		68,787.81
Advertising Florida Commodities.....	856.05	864.83
Communication and Transmittal of Things.....	43,840.50	48,333.55
General Printing and Reproduction.....	117,025.96	89,477.83
Repairs and Maintenance.....	83,401.73	83,922.43
Travel.....	99,994.35	131,514.18
Utilities.....	8,672.64	11,660.16
Other Contractual Services.....	75,755.41	44,119.67
Clothing, Linen, and Textile Products.....	7,508.00	23.90
Building and Construction Materials and Supplies.....	3,002.26	1,279.86
Coal, Fuel Oil.....	1,792.38	1,443.47
Educational, Medical, Scientific, and Agricultural Material and Supplies.....	49,749.11	39,680.24
Food Products.....	1,391.66	2,804.33
Maintenance Materials and Supplies.....	56,758.58	53,737.46
Motor Fuels and Lubricants.....	159,716.94	177,112.22
Office Materials and Supplies.....	14,134.56	15,812.41
Other Materials and Supplies.....	66,993.47	85,125.75
Insurance, Surety Bond, and Auto Liability.....	41,156.14	37,454.80
Pensions and Benefits.....	550.00	600.00
Rental of Buildings and Equipment.....	33,073.20	40,630.49
Other Current Charges and Obligations.....	2,093.85	23,542.85
Books.....	420.48	274.82
Fixed Capital Outlay.....	4,625.20	10,432.74
Educational, Medical, Scientific, and Agricultural Equipment.....	1,713.63	513.75
Motor Vehicles.....	135,973.62	112,719.76
Motors, Boats, and Trailers.....	20,486.67	15,622.18
Other Motor Vehicles.....		3,685.71
Office Furniture and Equipment.....	7,151.39	8,211.91
Other Structures and Improvements.....	700.00	2,313.20
Other Capital Outlay.....	44,934.65	22,712.76
Distribution and Transfer to Other Funds.....	32,765.98	34,777.38
Service Charge General Revenue.....		59,615.05
Grand Total.....	\$2,481,616.58	\$2,668,162.48

**Schedule C**  
**Disbursements by Departments**

	1960-61		1961-62	
	Budget Total	Department Total	Budget Total	Department Total
<b>Administration</b>				
Salaries .....	\$30,548.88		\$32,318.29	
Other Personal Services .....			40.00	
General Expense .....	5,519.97		15,522.83	
Capital Outlay .....	1,862.78	\$37,931.63	2,130.93	\$50,012.05
<b>General Services</b>				
Salaries .....	\$19,668.09		\$27,066.60	
Other Personal Services .....	380.00		2,163.03	
General Expense .....	84,970.03		87,137.43	
Capital Outlay .....	1,295.90		3,882.08	
Non-Operating Expense .....		\$106,314.02	59,615.05	\$179,864.19
<b>Fiscal</b>				
Salaries .....	\$41,653.95		\$43,856.34	
Other Personal Services .....			1,831.00	
General Expense .....	11,917.90		13,165.58	
Capital Outlay .....	832.81	\$ 54,404.66	494.50	\$ 59,347.42
<b>General Fisheries</b>				
Salaries .....	\$35,878.79		\$11,540.00	
General Expense .....	15,185.51		18,289.16	
Capital Outlay .....	8,626.43	\$ 59,690.73	3,432.45	\$ 63,261.61
<b>Dingell-Johnson</b>				
Salaries .....	\$75,432.41		\$98,840.42	
Other Personal Services .....			190.00	
General Expense .....	49,246.13		56,789.60	
Capital Outlay .....	11,150.50	\$135,829.04	6,614.12	\$162,434.14
<b>Hyacinth Control</b>				
Salaries .....	\$47,704.75		\$62,989.18	
Other Personal Services .....			544.50	
General Expense .....	62,041.10		49,310.98	
Capital Outlay .....	3,705.00	\$113,540.85	1,723.67	\$114,568.23
<b>St. Johns River Project</b>				
Salaries .....			\$ 6,204.75	
Other Personal Services .....			38.25	
General Expense .....			2,130.82	
Capital Outlay .....			512.07	\$ 8,885.89
<b>Fish Hatcheries</b>				
Salaries .....	\$27,043.67		\$17,524.50	
Other Personal Services .....			538.75	
General Expense .....	9,480.46		6,976.89	
Capital Outlay .....	292.92	\$36,817.05	2,658.26	\$27,698.40
<b>Fish Restoration</b>				
Salaries .....			\$13,723.50	
General Expense .....			19,753.42	
Capital Outlay .....			60.65	\$ 33,537.57
<b>Information and Education</b>				
Salaries .....	\$67,442.38		\$65,359.71	
Other Personal Services .....			375.00	
General Expense .....	55,288.95		48,844.90	
Capital Outlay .....	10,472.28	\$133,203.61	6,969.50	\$121,549.11
<b>Magazine Publication</b>				
Salaries .....	\$19,909.63		\$16,783.66	
Other Personal Services .....			5,233.40	
General Expense .....	75,279.11		67,555.33	
Capital Outlay .....	24.00	\$95,212.74	2,021.88	\$91,594.27
<b>Pittman-Robertson</b>				
Salaries .....	\$141,737.12		\$99,869.32	
Other Personal Services .....			4,040.50	
General Expense .....	122,243.00		114,697.34	
Capital Outlay .....	31,484.60	\$295,517.22	19,144.01	\$237,751.17
<b>General Game Management</b>				
Salaries .....	\$38,565.85		\$66,495.23	
Other Personal Services .....	210.00		1,389.71	
General Expense .....	31,618.55		27,444.13	
Capital Outlay .....	1,322.09	\$71,716.49	1,178.41	\$96,507.48
<b>State Hunts</b>				
Salaries .....	\$77,552.33		\$31,236.95	
Other Personal Services .....			40,949.75	
General Expense .....	38,746.73		32,189.81	
Capital Outlay .....	3,777.84	\$120,076.90	22.10	\$104,398.61

**Schedule C (continued)**  
**Disbursements by Departments**

	1960-61		1961-62	
	Budget Total	Department Total	Budget Total	Department Total
<b>National Forest</b>				
Salaries .....	\$11,002.30		\$ 445.16	
Other Personal Services .....			10,986.57	
General Expense .....	34,627.57		37,080.81	
Capital Outlay .....		\$45,629.87	67.55	\$48,580.09
<b>South Florida Region</b>				
Salaries .....	\$114,670.62		\$ 124,142.52	
Other Personal Services .....			348.00	
General Expense .....	40,415.57		43,605.44	
Capital Outlay .....	9,271.28	\$164,357.47	21,352.07	\$189,448.03
<b>Northeast Florida Region</b>				
Salaries .....	\$151,266.09		\$157,628.52	
Other Personal Services .....			205.00	
General Expense .....	51,099.85		52,717.59	
Capital Outlay .....	27,955.82	\$230,331.76	23,513.69	\$234,064.80
<b>Northwest Florida Region</b>				
Salaries .....	\$131,337.21		\$153,356.70	
Other Personal Services .....			929.03	
General Expense .....	44,959.61		49,050.29	
Capital Outlay .....	17,543.68	\$193,840.50	24,540.82	\$227,876.84
<b>Everglades Region</b>				
Salaries .....	\$107,943.85		\$130,902.64	
Other Personal Services .....			320.00	
General Expense .....	60,673.73		74,004.89	
Capital Outlay .....	17,013.82	\$185,631.40	21,214.90	\$226,442.43
<b>Central Florida Region</b>				
Salaries .....	\$135,084.72		\$142,942.47	
General Expense .....	48,523.38		56,023.99	
Capital Outlay .....	26,457.32	\$210,065.42	19,022.76	\$217,989.22
<b>Communication Division</b>				
Salaries .....	\$52,233.03		\$57,267.60	
Other Personal Services .....			68.40	
General Expense .....	27,709.59		25,817.37	
Capital Outlay .....	42,609.89	\$122,552.51	6,950.41	\$ 90,103.78
<b>Aviation Division</b>				
Salaries .....	\$38,050.00		\$51,457.94	
General Expense .....	30,085.93		23,809.21	
Capital Outlay .....	216.78	\$ 68,952.71	6,980.00	\$ 82,247.15
<b>Grand Total .....</b>		\$2,481,616.58		\$2,668,162.48
<b>Total Expenditures by Budget</b>				
Salaries .....	\$1,364,725.67		\$1,437,951.90	
Other Personal Services .....			72,065.89	
General Expense .....	900,885.27		922,042.81	
Capital Outlay .....	216,005.64		176,486.83	
Non-Operating Expense .....		\$2,481,616.58	59,615.05	\$2,668,162.48



